

CONTINUOUS IMPROVEMENT PROJECT DATABASE

DIVISION 12 PROJECTS

Project Name	Project Description	Division	Project Year	Contact Name	Contact Number	Project Category
Approved Encroachment Cross-Reference Map	<p>Approved Encroachment or driveway permits were difficult to locate because they were never cross-referenced so that district staff could locate them. For example, if a municipality contacted the district office and wanted to know what type of encroachments existed on a particular SR route then the staff was forced to search through all encroachments to find the needed information. A county map was used to color code all approved encroachments and referenced by a file number that allows staff to easily locate the approved documentation. Files for approved encroachments and driveways were filed by city, utility company, and/or individuals. An Excel worksheet was created that logged the reference number (which was logged on the map as well), date received, date approved, location, encroachment type, and any other remarks for each encroachment agreement. The spreadsheet can be sorted by information type to reduce the time required by staff to locate specific data.</p> <p>The color-coded map helps staff to immediately identify the type of encroachment at each location. By providing the reference number on the map, time needed to locate approved encroachment data was significantly reduced. This greatly improves customer service, reduces labor time and keeps data easily accessible.</p>	Div 12	2009	Caroline Dedmon		Labor Hour Savings
NCDOT At Your Door	<p>Problem: Work crews from both the Bituminous Unit and the Maintenance Unit were getting numerous calls about work along their project site from the property owners. Some calls were basic questions about what was occurring along their property and/or how long our crews will take. However, many complaints were received due to the lack of information available to the property owners. For example, one of the most common complaints that we received occurred during our Bituminous operations in which motorists noticed loose stones impacting their car.</p> <p>Solution: Door hangers allowed us to inform the property owners what our crews would be doing, what to expect while our crews are working, how their commute will be affected, and who to contact if they have any other questions. These hangers were a convenient method to contact property owners prior to work crews mobilizing.</p>	Division 12 Cleveland Co Maintenance and Bituminou	2008	Steve Rackley	(704)-480-9027	Customer Service
Pre-Augering H-Piles in Weathered Rock for Interior Bents	<p>Problem: Several decades ago bridges were designed to resist scour. In recent years, to improve lateral stability of interior bents that will resist the destabilizing effects of scour, NCDOT engineers have shifted from driven pile foundations and spread footings to drilled pier foundations resting within rock sockets. These drilled pier foundations are significantly more costly than previously used foundations. To save money and better utilize resources, we developed a new installation technique for piles to be installed within a rock socket.</p> <p>Solution: The Geotechnical Engineering Unit uses one of their CME 55 drill rigs with 12 inch augers to pre-auger the hole into weathered rock to a depth sufficient for lateral stability. Bridge Maintenance then drives the H-pile with their pile driving hammer into the pre-augered hole.</p>	DOH- Div 9, Div 12, BMU, & GEU	2007	John Fargher	(704) 455-8902.	Dollar Savings
Approved Encroachment Cross-Reference Map	<p>Problem: Approved Encroachment or driveway permits were difficult to locate because they were never cross-referenced so that district staff could locate them. For example if a municipality contacted the district office and wanted to know what type of encroachments existed on a particular SR route then the staff was forced to search through all encroachments to find the needed information.</p> <p>Solution: A county map was used to color code all approved encroachments and referenced by a file number that allows staff to easily locate the approved documentation. Files for approved encroachments and driveways were filed by city, utility company, and/or individuals. An excel worksheet was also created that logged the reference number (which was logged on the map as well), date received, date approved, location, encroachment type, and any other remarks for each encroachment agreement. The spreadsheet can be sorted or filtered by information type to reduce the time required by staff to reduce labor time when looking for specific data.</p>	Operations - Division 12	2006	Caroline Dedmon	(704) 480-5425	Labor Hour Savings

NC 16 Widening Project #6.780002	<p>two-lane section of roadway into a three-lane curb and gutter section on NC 16. Problems with the task included: 1) No purchase of right of way could be obtained due to limited funding. 2) The section of roadway included residential and commercial property. 3) There was no recorded DOT right of way on 97% of properties. 4) One property owner was trying to organize the other property owners into an opposition of the project unless they were compensated monetarily.</p> <p>The first goal at hand was to head off the negative criticism by informing each property owner of the DOT's intentions and explain the positive benefits the widening would have on their property. Alexander County Maintenance employees conducted several informal meetings with property owners. Most were initially against the project. During these meetings it became evident that many would be willing to give up the necessary right of way in exchange for things like additional driveway entrances and something in writing indicating that the DOT would not take any additional property.</p>	OPERATIONS - DIVISION 12	2002	John Cook	(704) 876-4001.	Customer Service
LED Signal Head Retrofits under TIP Projects	<p>Signal standards have changed in the past 2-3 years to include all LED signal displays. Initially only red LEDs were required, finally all LED. Traffic Services is faced with retrofitting these new signals with all LED displays using maintenance or other funding sources. All LED signals have shown as much as 50% less power consumption as old incandescent displays also LED visibility improves controlled intersection safety, and the five-year warranty on LEDs has reduced trouble calls for bulb replacement.</p> <p>In order to solve the problem, we proposed to get approval to let the signal contractor on the TIP project retrofit the signal heads while the project is ongoing. By letting the contractor perform the work during construction, DOT forces would not have to make a second visit to retrofit after construction is completed.</p>	OPERATIONS - DIVISION 12	2002	Jimmy Hamrick	(704) 480-9033.	Dollar Savings
Warning Sign for Low Utility Lines	<p>Over a three-year period, Division maintenance and construction departments experienced about six accidents where power and utility lines were knocked down by equipment. The Division Safety Committee was faced with the challenge to develop countermeasures to reduce or eliminate these hazardous incidents, which posed potential fatal conditions not only to the equipment operators and employees, but also to the traveling public.</p> <p>Division 12 Traffic Services Department fabricated a warning sign (Low Utility Lines) and made this sign available to all departments that had equipment (i.e., dump trucks, backhoes, etc.) which were susceptible to accidents involving power lines. The purpose of this warning sign was to provide a constant reminder of the presence of power and utility lines.</p>	OPERATIONS - DIVISION 12	2002	Reuben Chandler	(704) 480-9021	Safety Improvement
Night-time Spray Operation	<p>The installation of several miles of median guardrail provided a challenge for the Division to maintain the vegetation in the median. In many areas, the median was not wide enough for the roadside mowers to operate without closing the left lane of interstate. Spraying had not been performed in the interstate median of this Division for several years due the volume of traffic. We found that if we closed the left lane on the interstate with a slow moving caravan during the daytime, the traffic bottlenecked and accidents occurred. We also had too many near misses which caused this operation to be unsafe. The best option to maintain the vegetation in the median was with the plant growth regulators and herbicides, as this has been done in the eastern region of North Carolina for years. We chose to try nighttime spraying.</p> <p>In the nighttime spraying operation, we had the advantage of much less traffic volume. Also, the lighting used on arrow-boards and flashing lights were much more visible. We were concerned about impaired motorist so we only sprayed Sunday through Wednesday nights. The only equipment modifications we did were to add reflective tape to the vehicles and install lights on the spray boom. These lights were adjusted to light the area the nozzles were spraying and not to blind oncoming traffic.</p>	OPERATIONS DIVISION 12	2001	Phil Fox	(704) 480-9020	Customer Service